

## SEQUENCE LISTING

<110> Ehrhardt, Thomas  
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 Sitt Nigel, Marc  
 Lein, Wolfgang  
 Bornke, Frederik

<120> 2-Methyl-6-solanylbenzoquinone methyltransferase as target for herbicides

<130> 12810-00260-US

<150> PCT/EP2004/013560  
 <151> 2004-11-30

<150> DE 103 56 631.7  
 <151> 2003-12-02

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<170> PatentIn version 3.3

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Cys	Leu	Ile	Gly	Pro	Val	Tyr	Pro	Thr	Phe	Trp	Leu	Ser	Arg	Phe	Phe	
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Pro Ile			

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35 40 45

Lys Cys Ser Ser Ser Ser Val Ser Ser Ser Arg Pro Ser Ala Gln Pro
50 55 60

Arg Phe Ile Gln His Lys Lys Glu Ala Tyr Trp Phe Tyr Arg Phe Leu
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Ser Ile Val Tyr Asp His Val Ile Asn Pro Gly His Trp Thr Glu Asp
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Met Arg Asp Asp Ala Leu Glu Pro Ala Asp Leu Ser His Pro Asp Met
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Arg Val Val Asp Val Gly Gly Gly Thr Gly Phe Thr Thr Leu Gly Ile
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Val Lys Thr Val Lys Ala Lys Asn Val Thr Ile Leu Asp Gln Ser Pro  
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Ile Val Glu Gly Asp Ala Glu Asp Leu Pro Phe Pro Thr Asp Tyr Ala  
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Leu Gly Arg Phe Leu Leu Gly Thr Leu Ala Ala Ala Trp Phe Val Leu  
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Ile Val Tyr Asp His Val Ile Asn Pro Gly His Trp Thr Glu Asp Met	
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Gln Leu Ala Lys Ala Lys Gln Lys Glu Pro Leu Lys Glu Cys Lys Ile	
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Val Glu Gly Asp Ala Glu Asp Leu Pro Phe Pro Thr Asp Tyr Ala Asp	
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Arg Tyr Val Ser Ala Gly Ser Ile Glu Tyr Trp Pro Asp Pro Gln Arg	
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Gln Leu Ala Lys Ala Lys Gln Lys Glu Pro Leu Lys Glu Cys Lys Ile			
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Arg Tyr Val Ser Ala Gly Ser Ile Glu Tyr Trp Pro Asp Pro Gln Arg			
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Leu Ile Gly Pro Val Tyr Pro Thr Phe Trp Leu Ser Arg Phe Phe Ser  
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Asp Val Trp Met Leu Phe Pro Lys Glu Glu Glu Tyr Ile Glu Trp Phe  
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Lys Asn Ala Gly Phe Lys Asp Val Gln Leu Lys Arg Ile Gly Pro Lys  
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Trp Tyr Arg Gly Val Arg Arg His Gly Leu Ile Met Gly Cys Ser Val  
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Thr Gly Val Lys Pro Ala Ser Gly Asp Ser Pro Leu Gln Leu Gly Pro  
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Val Lys Ala Lys Asn Val Thr Ile Leu Asp Gln Ser Pro His Gln Leu  
85 90 95

gcc aaa gca aag caa aag gag ccg ttg aaa gaa tgc aag atc gtc gag 336  
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gga gat gct gag gat ctt cct ttt cca acc gat tat gct gac aga tac 384  
Gly Asp Ala Glu Asp Leu Pro Phe Pro Thr Asp Tyr Ala Asp Arg Tyr  
115 120 125

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Val Ser Ala Gly Ser Ile Glu Tyr Trp Pro Asp Pro Gln Arg Gly Ile  
130 135 140

agg gaa gcg tac agg gtt ctc aag atc ggt ggc aaa gcg tgt ctc atc 480  
Arg Glu Ala Tyr Arg Val Leu Lys Ile Gly Gly Lys Ala Cys Leu Ile  
145 150 155 160

ggc cct gtc tac cca acc ttc tgg ctc tct cgc ttc ttt tct gat gtc 528  
Gly Pro Val Tyr Pro Thr Phe Trp Leu Ser Arg Phe Phe Ser Asp Val  
165 170 175

tgg atg ctc ttc ccc aag gag gaa gag tac att gag tgg ttc aag aat 576  
Trp Met Leu Phe Pro Lys Glu Glu Glu Tyr Ile Glu Trp Phe Lys Asn  
180 185 190

gcc ggt ttc aag gac gtt cag ctc aag agg att ggc ccc aag tgg tac 624  
Ala Gly Phe Lys Asp Val Gln Leu Lys Arg Ile Gly Pro Lys Trp Tyr  
195 200 205

cgt ggt gtt cgc agg cac ggc ctt atc atg gga tgt tct gtc act ggt 672  
Arg Gly Val Arg Arg His Gly Leu Ile Met Gly Cys Ser Val Thr Gly  
210 215 220

gtt aaa cct gcc tcc ggt gat tct cct ctc cag ctt ggt cca aag gaa 720  
Val Lys Pro Ala Ser Gly Asp Ser Pro Leu Gln Leu Gly Pro Lys Glu  
225 230 235 240

gag gac gta gag aag cct gtc aac aac ccc ttc tcc ttc ttg gga cgc 768  
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35 40 45

Asp Ala Leu Glu Pro Ala Asp Leu Ser His Pro Asp Met Arg Val Val  
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Asp Val Gly Gly Gly Thr Gly Phe Thr Thr Leu Gly Ile Val Lys Thr  
 65 70 75 80

Val Lys Ala Lys Asn Val Thr Ile Leu Asp Gln Ser Pro His Gln Leu  
 85 90 95

Ala Lys Ala Lys Gln Lys Glu Pro Leu Lys Glu Cys Lys Ile Val Glu  
 100 105 110

Gly Asp Ala Glu Asp Leu Pro Phe Pro Thr Asp Tyr Ala Asp Arg Tyr  
 115 120 125

Val Ser Ala Gly Ser Ile Glu Tyr Trp Pro Asp Pro Gln Arg Gly Ile  
 130 135 140

Arg Glu Ala Tyr Arg Val Leu Lys Ile Gly Gly Lys Ala Cys Leu Ile  
 145 150 155 160

Gly Pro Val Tyr Pro Thr Phe Trp Leu Ser Arg Phe Phe Ser Asp Val  
 165 170 175

Trp Met Leu Phe Pro Lys Glu Glu Glu Tyr Ile Glu Trp Phe Lys Asn  
 180 185 190

Ala Gly Phe Lys Asp Val Gln Leu Lys Arg Ile Gly Pro Lys Trp Tyr  
 195 200 205

Arg Gly Val Arg Arg His Gly Leu Ile Met Gly Cys Ser Val Thr Gly  
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Val Lys Pro Ala Ser Gly Asp Ser Pro Leu Gln Leu Gly Pro Lys Glu  
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Glu Pro Leu Lys Glu Cys Lys Ile Leu Glu Gly Asp Ala Glu Asp Leu	
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cct ttt cct act gat act ctt gat aga tat gtt tct gct gga ggc att	144
Pro Phe Pro Thr Asp Thr Leu Asp Arg Tyr Val Ser Ala Gly Gly Ile	
35 40 45	
gag tat tgg ccc gat cca cag cgc ggt atc aag gaa gca tac cga gta	192
Glu Tyr Trp Pro Asp Pro Gln Arg Gly Ile Lys Glu Ala Tyr Arg Val	
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ctg acc ata ggt ggt gtt gcc tgc tta ata ggt cct gtg tac ccg acg	240
Leu Thr Ile Gly Gly Val Ala Cys Leu Ile Gly Pro Val Tyr Pro Thr	
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Phe Trp Leu Ser Arg Phe Phe Ala Asp Met Trp Met Leu Phe Pro Lys	
85 90 95	
gaa gaa gaa tat ata gaa tgg ttc aaa aaa gct ggt ttc gct caa gtt	336
Glu Glu Glu Tyr Ile Glu Trp Phe Lys Lys Ala Gly Phe Ala Gln Val	
100 105 110	
aaa ctc aag agg att ggc cca aaa tgg tat cgt ggt gtc tgt cgc cat	384
Lys Leu Lys Arg Ile Gly Pro Lys Trp Tyr Arg Gly Val Cys Arg His	
115 120 125	
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Gly Leu Ile Met Gly Cys Ser Val Thr Gly Val Lys Pro Tyr Phe Gly	
130 135 140	
gaa tct ccg ttg cag ctc ggt ccg aag gtt gag gat gtg agc aag cct	480
Glu Ser Pro Leu Gln Leu Gly Pro Lys Val Glu Asp Val Ser Lys Pro	
145 150 155 160	
gta aac cca ttc gta ttt ctc gtg cga ttc ctc ctt ggc ata act gct	528
Val Asn Pro Phe Val Phe Leu Val Arg Phe Leu Leu Gly Ile Thr Ala	
165 170 175	
gca act tat tac gtg ctc gtt cca ata tac atg tgg ctc aag gat caa	576
Ala Thr Tyr Tyr Val Leu Val Pro Ile Tyr Met Trp Leu Lys Asp Gln	
180 185 190	
atc acc ccg aaa ggt cag cca atc tgaacaataa gaagaacgtc aatccaaaga	630
Ile Thr Pro Lys Gly Gln Pro Ile	
195 200	
gaagctctcc aagcattctg tttgagagta caccagtgc cacaatcta tcacggaaca	690
agaaagt ttt tggcgctcgtt gcaaggggtga atttggtgct ttagtttggt agttttgcag	750
ccttagaaa ggccttttgt aaagt ttaat ttcattggtaa aacctagaaa tcattgtgac	810

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Pro Phe Pro Thr Asp Thr Leu Asp Arg Tyr Val Ser Ala Gly Gly Ile  
 35 40 45

Glu Tyr Trp Pro Asp Pro Gln Arg Gly Ile Lys Glu Ala Tyr Arg Val  
 50 55 60

Leu Thr Ile Gly Gly Val Ala Cys Leu Ile Gly Pro Val Tyr Pro Thr  
 65 70 75 80

Phe Trp Leu Ser Arg Phe Phe Ala Asp Met Trp Met Leu Phe Pro Lys  
 85 90 95

Glu Glu Glu Tyr Ile Glu Trp Phe Lys Lys Ala Gly Phe Ala Gln Val  
 100 105 110

Lys Leu Lys Arg Ile Gly Pro Lys Trp Tyr Arg Gly Val Cys Arg His  
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Gly Leu Ile Met Gly Cys Ser Val Thr Gly Val Lys Pro Tyr Phe Gly  
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Glu Ser Pro Leu Gln Leu Gly Pro Lys Val Glu Asp Val Ser Lys Pro  
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Val Asn Pro Phe Val Phe Leu Val Arg Phe Leu Leu Gly Ile Thr Ala  
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